



quickly and fairly frequently after just a few weeks or months of below-normal rainfall.

Those who share stored water are rarely affected by less than normal precipitation because the systems are designed to provide water during those times. But the very success of such systems creates a new kind of vulnerability to drought that was revealed in the Northeast during drought in the 1960s, the 1976-1977 and 1987-1992 droughts in California, droughts around the country in the late 1980s, and the mid-Atlantic, southeastern, and northeastern drought in 1999. Specific issues vary, but the pattern is common.

- ☀ People without enough stored water build reservoirs or tap into surface or groundwater storage.
- ☀ Reliable water helps support greater populations and more diverse uses of water. Hydro-power dams create popular fishing and boating lakes and valuable lake view property. Reservoir operating policies are supposed to assure minimum flows for fish and wastewater dilution when there would otherwise not be enough water in the stream. Cities and farmers increase their withdrawals as they prosper and grow.
- ☀ An unusually long dry period forces reservoir operators to draw down these man-made lakes to support withdrawals for cities and farms, produce hydropower, and keep enough water in navigation channels for barges to float. But homes and businesses around the lake now have views of mud flats. Boat ramps no longer reach the water. Lake fisheries suffer when releases are made for riverine species.
- ☀ No one can tell when it will rain enough to reverse this trend, so water deliveries have to be reduced, but to whom first and by how much?

- ☀ There may be a conflict between fairness and good economic policy in making water allocations. The newest water uses may generate more income and tax revenue than the oldest established uses. Such conflicts are normally resolved on a case-by-case basis.

Public testimony at the Commission's hearing in Los Angeles and comments from the Army Corps of Engineers pointed out that stored water system managers develop drought contingency plans that call for the staged curtailment of the least important uses of water (such as lawn watering) during droughts. Communities may elect to accept these drought-related reductions rather than add reservoir capacity to meet growing needs.

Stored water managers consider the risks associated with the probability of system failure, the uncertain effectiveness of drought curtailment measures, uncertainty in estimates of drought severity and duration, and the tolerance of utility customers for water use curtailments. These concepts are not routinely applied to manage drought impacts on agriculture, but they could be. As Guy Martin of the Western Urban Water Coalition advised the Commission, "Overall, we believe there is a missed opportunity to link the resources of the urban water sector with the agricultural sector. While the end water use may be different, the techniques necessary to plan for, conduct, assess, monitor and implement conservation techniques to alleviate drought impacts cover all sectors."

Natural water droughts mostly affect people such as farmers and ranchers, forest and woodlot owners and managers, customers of many water systems, and the owners of water-dependent businesses who rely on direct precipitation or unregulated stream flows. These people are usually the first to feel the effects of drought.